Claim Amendments

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (Original) An apparatus for dry forming an absorbent core composite comprising:

a rotatable drum having a substantially cylindrical surface;

a vacuum surface comprising one or more holes disposed substantially circumferentially around at least a portion of the substantially cylindrical surface;

a vacuum chamber, disposed within the rotatable drum, having one or more vacuum passages forming a vacuum zone subadjacent at least a portion of the vacuum surface;

a first casing sheet supply mechanism for supplying a first casing sheet to overlie the vacuum surface at a first location;

a fibrous material supply mechanism for supplying fibrous material to overlie the first casing supply at a second location;

a particulate matter supply mechanism for depositing particulate matter onto the fibrous material at a third location; and

a second casing sheet supply mechanism for supplying a second casing sheet to overlie the first casing sheet, the fibrous material and the particulate matter at a fourth location, thereby forming an absorbent core composite.

2. (Original) The apparatus of claim 1, wherein the particulate matter comprises superabsorbent particles.

3. (Original) The apparatus of claim 1, wherein the fibrous material comprises cellulose acetate tow.

4. (Original) The apparatus of claim 1, wherein the first casing sheet and second casing sheet comprise tissue.

5. (Original) The apparatus of claim 1, wherein at least one of the first casing sheet and second casing sheet is liquid-pervious.

6. (Original) The apparatus of claim 5, wherein one of the first casing sheet and second casing sheet is a liquid-pervious topsheet and the other of the first casing sheet and second casing supply is a liquid-impervious backsheet.

7. (Original) The apparatus of claim 1, wherein the vacuum surface has a width of about 1.75 inches to about 12 inches.

8. (Original) The apparatus of claim 1, wherein the vacuum surface has a width of about 2.75 inches to about 10 inches.

9. (Original) The apparatus of claim 1, wherein the vacuum surface has a width of about 3.75 inches.

10. (Original) The apparatus of claim 1, wherein the vacuum surface is about 0.20 inches narrower than the fibrous material.

11. (Original) The apparatus of claim 1, wherein the vacuum surface is recessed.

12. (Original) The apparatus of claim 11, wherein the vacuum surface is recessed by less than about 0.10 inches.

13. (Original) The apparatus of claim 11, wherein the vacuum surface is recessed by about 0.030 inches.

14. (Original) The apparatus of claim 1, wherein a vacuum in the vacuum chamber is about 2.5 inches of water to about 20 inches of water.

15. (Original) The apparatus of claim 1, wherein a vacuum in the vacuum chamber is about 3.75 inches of water to about 12.5 inches of water.

16. (Original) The apparatus of claim 1, wherein a vacuum in the vacuum chamber is about 5.0 inches of water.

17. (Original) The apparatus of claim 1, wherein the rotatable drum has a diameter of about 6 inches to about 28 inches.

18. (Original) The apparatus of claim 1, wherein the rotatable drum has a diameter of about 9 inches to about 20 inches.

19. (Original) The apparatus of claim 1, wherein the rotatable drum has a diameter of about 12 inches.

20. (Original) The apparatus of claim 1, wherein the vacuum zone defines an arc subadjacent the a portion of the vacuum surface having a leading edge and a trailing edge.

21. (Original) The apparatus of claim 20, wherein the leading edge and trailing edge are spaced apart from one another, relative to a rotating axis of the rotatable drum, by about 45 degrees to about 180 degrees.

22. (Original) The apparatus of claim 20, wherein the leading edge and trailing edge are spaced apart from one another, relative to a rotating axis of the rotatable drum, by about 90 degrees to about 160 degrees.

23. (Original) The apparatus of claim 20, wherein the leading edge and trailing edge are spaced apart from one another, relative to a rotating axis of the rotatable drum, by about 140 degrees.

24. (Original) The apparatus of claim 1, wherein a vacuum in the vacuum chamber pulls the particulate matter into a relatively homogeneous distribution within the supply of fibrous material.

25. (Original) The apparatus of claim 1, wherein the vacuum surface comprises one or more regions having a relatively large amount of open space and a vacuum in the vacuum chamber pulls the particulate matter into zones of relatively high concentration corresponding to the one or more regions having a relatively large amount of open space.

26. (Original) The apparatus of claim 25, wherein the zones of relatively high concentration of particulate matter provide zoned absorbency in a garment manufactured to include a portion of the core composite.

27. (Original) The apparatus of claim 1, wherein the vacuum surface comprises one or more mesh screens.

28. (Original) The apparatus of claim 1, wherein the vacuum surface comprises one or more foraminous plates.

29. (Original) The apparatus of claim 1, wherein the vacuum surface comprises holes having a diameter of about 0.0625 inches to about 0.75 inches that are spaced from one another by a center-to-center distance of about 0.10 inches to about 1.00 inch.

30. (Original) The apparatus of claim 1, wherein the vacuum surface comprises holes having a diameter of about 0.125 inches to about 0.625 inches that are spaced from one another by a center-to-center distance of about 0.20 inches to about 1.00 inch.

31. (Original) The apparatus of claim 1, wherein the vacuum surface comprises holes having a diameter of about 0.25 inches to about 0.50 inches that are spaced from one another by a center-to-center distance of about 0.30 inches to about 1.00 inch.

32. (Original) The apparatus of claim 1, further comprising a lay on roll located proximal to the fourth location to press the second casing sheet against the first casing sheet.

33. (Original) The apparatus of claim 1, wherein at least one of the first casing sheet and second casing sheet is coated with adhesive prior contacting the rotatable drum.

34. (Original) The apparatus of claim 1, wherein the third location is positioned between the second location and the fourth location.

35. (Original) The apparatus of claim 1, wherein the third location is not positioned between the second location and the fourth location.

36. (Original) The apparatus of claim 1, further comprising:

a landing surface disposed on either side of the vacuum surface, and

wherein at least one of the first casing sheet and second casing sheet is wider than the vacuum surface.

37. (Original) An apparatus for dry forming a core composite comprising:

a rotatable combining drum having a vacuum surface comprising one or more holes disposed substantially circumferentially around at least a portion of the combining drum;

a vacuum chamber, disposed within the rotatable drum, having one or more vacuum passages forming a vacuum zone subadjacent at least a portion of the vacuum surface;

a first casing sheet supply mechanism for supplying a first casing sheet to overlie the vacuum surface at a first location;

a tow forming jet disposed adjacent the rotatable combining drum for supplying opened tow to overlie the first casing sheet at a second location, the opened tow exiting the tow forming jet at a tow break angle;

a vibratory feeder disposed adjacent the rotatable combining drum for depositing particulate matter onto the opened tow at a third location; and

a second casing sheet supply mechanism for supplying a second casing sheet to overlie the first casing sheet, the opened tow and the particulate matter at a fourth location, thereby forming an absorbent core composite.

38. (Original) The apparatus of claim 37, wherein the particulate matter comprises superabsorbent particles.

39. (Original) The apparatus of claim 37, wherein the opened tow comprises cellulose acetate tow.

40. (Original) The apparatus of claim 37, wherein the first casing sheet and second casing sheet comprise tissue.

41. (Original) The apparatus of claim 37, wherein the tow forming jet is adjustable to change the tow break angle.

42. (Original) The apparatus of claim 41, wherein the basis weight of the opened tow may be increased by decreasing the tow break angle and decreased by increasing the tow break angle.

43. (Original) The apparatus of claim 37, further comprising a lay on roll located proximal to the fourth location to press the second casing sheet against the first casing sheet.

44. (Original) An apparatus for dry forming a core composite comprising:

a rotatable drum having a substantially cylindrical surface;

a vacuum surface comprising one or more holes disposed substantially circumferentially around at least a part of the substantially cylindrical surface;

a vacuum chamber, disposed within the rotatable drum, having one or more vacuum passages forming a vacuum zone subadjacent at least a portion of the vacuum surface;

a first casing sheet supply mechanism for supplying a first casing sheet to overlie the vacuum surface at a first location;

a fibrous material supply mechanism for supplying fibrous material to overlie the first casing supply at a second location;

a particulate matter supply mechanism for depositing superabsorbent particles onto the fibrous material at a third location; and

a second casing sheet supply mechanism for supplying a second casing sheet to overlie the first casing sheet, the fibrous material and the particulate matter at a fourth location, thereby forming an absorbent core composite having first and second casing sheets on either side of a mixture of superabsorbent particles and fibrous material;

wherein the mixture of superabsorbent particles and fibrous material contains at least about 30% by weight superabsorbent particles.

45. (Original) The apparatus of claim 44, wherein the supply of fibrous material comprises a supply of cellulose acetate tow.

46. (Original) The apparatus of claim 44, wherein the mixture of superabsorbent particles and fibrous material contains from about 30% by weight to about 95% by weight superabsorbent particles.

47. (Original) The apparatus of claim 44, wherein the mixture of superabsorbent particles and fibrous material contains from about 60% by weight to about 90% by weight superabsorbent particles.

48. (Original) The apparatus of claim 44, wherein the mixture of superabsorbent particles and fibrous material contains from about 75% by weight to about 85% by weight superabsorbent particles.

Claims 49 - 62 (Cancelled).